

REMARKS

The Office Action of February 4, 2009, has been reviewed and the Examiner's comments carefully considered. The present Amendment modifies claims 1-2, 6, 8-21, and 25-27 all in accordance with the specification. No new matter has been added. Support for the amendments can be found in the present application at paragraphs [0059]-[0064]. Claims 1-21, and 25-27 are pending in this application, and claims 1, 20, and 25 are in independent form.

Claim 26 has been amended to overcome the objection as containing unacceptable dependent claim wording. In addition, dependent claims 2, 6, 8-19 have been amended to overcome the objection as having improper dependent claim referencing, claims 3-5, and 7 appear properly formatted. Reconsideration is requested.

The Examiner has rejected claims 21 and 27 as being directed to non-statutory subject matter under 35 U.S.C. §101. In particular, the Examiner recommends amending claims 21 and 27 to embody the program on computer readable medium.

Therefore, claim 21 and 27 have been amended to embody a computer readable medium defining a relationship between the data structure and the computer software that clearly represents statutory subject matter under 35 U.S.C. §101. For at least the above reasons, withdrawal of the §101 rejection of claims 21 and 27 is respectfully requested.

In addition, claims 1-20 and 25-26 stand rejected under 35 U.S.C. §102(e) for anticipation by United States Patent No. 7,395,077 to Wilson et al. (hereinafter "the Wilson patent").

Summary of the Preferred Embodiments

As set forth in independent claim 1 as amended, provided is a computer implemented method of managing SMS messages in a first mobile operator network, said network comprising a plurality of subscribers and a Short Message Service Centre (SMSC), the method comprising the steps of: starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC; intercepting transparently to the SMSC said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message; replacing a mobile network location address of said second subscriber in an Home Location Register (HLR) query response with the network location address of a

smart services control node; routing said intercepted SMS message delivery attempt via a smart services control node in the network; examining said message delivery attempt for possible invocation of a smart service to said SMS message; and invoking said smart services for said SMS message destined to said subscriber in response to said examination.

As set forth in independent claim 20 as amended, provided is a computer implemented method of managing SMS messages between a subscriber of the first mobile operator network and another subscriber of a second mobile operator network in a telecommunications system, the method comprising the steps of: delivering a SMS message from said first subscriber in said first mobile operator network to said subscriber of said second mobile operator network; intercepting a SMS message inbound delivery attempt in said second mobile operator network before delivery of said SMS message; routing said intercepted SMS message delivery attempt via a smart services control node in second operator mobile network; examining said message delivery attempt for possible invocation of a smart service to said SMS message; and invoking said smart services for said SMS message destined to said subscriber of said second mobile operator network in response to said examination.

As set forth in independent claim 25 as amended, provided is a system of managing SMS messages in a first mobile operator network, said network comprising a plurality of subscribers and a SMSC, the system comprising: means for starting a delivery attempt of the SMS message from a first subscriber to a second subscriber via said SMSC; means for intercepting transparently said SMS message delivery attempt from the first subscriber in the network before delivery of said SMS message; means for routing said intercepted SMS message delivery attempt via a smart services control node in the network; means for replacing a mobile network location address of said second subscriber in an HLR query response with the network location address of a smart services control node; means for examining said message delivery attempt for possible invocation of a smart service to said SMS message; and means for invoking said smart services for said SMS message destined to said subscriber in response to said examination.

Cited Prior Art

The Wilson patent is directed to an apparatus and method of controlling delivery of SMS messages to a subscriber in a telephone communications network. More specifically, the Wilson patent discloses a system that allows a user to select a mode of delivery including fax and email, which is implemented on an SMS router which is part of the user's home network. If the router detects that a message coming from either the home network or a foreign network is for a recipient who has configured special delivery settings, then the router responds to a routing query by giving the address of the SMS router and network B.

The Prior Art Neither Teach nor Suggest the Methods and Systems of Independent Claims 1, 20, and 25

In the present Office Action, the Examiner uses the Wilson patent as the primary reference. The system of the Wilson patent has the SMS router act as a pseudo or proxy HLR and generates a response to the HLR query giving the address of the SMS router in the other network. Further, the SMS router of the Wilson patent acts as a pseudo or proxy HLR, as stated, "The SMS Router may then respond on behalf of the HLR." (see the Wilson patent, paragraph 27) Still further, the SMS router of the Wilson patent responds to the HLR query, as stated, "the router responds to the routing query, giving the address of the SMS Router in Network B". (See the Wilson patent, paragraph 38)

Independent claims 1, 20, and 25 of the present application have been amended to expedite examination. The characterizing feature of replacing a mobile network location address of a second subscriber with the network location address of a smart services control node has been added. In the present application, the address of the second subscriber in the HLR query response, which originates from the HLR, is replaced with the address of the Smart Services Control Node (SSCN). Therefore, Applicants note that the presently claimed invention represents a novel and innovative approach to SMS messaging.

The SMS router in the Wilson patent generates a response to the HLR query, giving the address of the SMS router in the other network. Since the router generates the response in the Wilson patent, replacing the address in a HLR query response (generated by the HLR) with the address of the SSCN is not suggested and claims 1, 20, and 25 are not obvious in light of Wilson.

In the present invention, the principal advantage of replacing the mobile network location address is that the transaction is then truly transparent, because the SMSC has visibility of the true status of the destination subscriber. The SMS delivery transaction remains between the originating SMSC and the destination HLR, and delivery of messages to detached subscribers, subscribers who have turned off their handsets or otherwise disconnected from the network, works seamlessly. In contrast, in the Wilson patent, the SMS router acting as the pseudo HLR will always consider that the second subscriber is available causing the SMS router to query the HLR as a proxy SMSC. In the present application, the SMSC is provided with the actual availability status of the second subscriber, therefore the originating SMSC will not attempt to deliver the SMS message to detached subscribers. In the Wilson patent, the SMSC will have to make an SMS delivery attempt for all subscribers, including detached subscribers because status information is unknown to the SMS router (pseudo HLR).

Still further, the relay of the routing query from the originating SMSC to the HLR works seamlessly with Mobile Number Portability (MNP) solutions in the present application. In the Wilson patent, the SMS router is placed "before" the MNP node causing the SMS router to signal a fake response for ported-out subscribers, as it has not allowed the query signal to traverse end-to-end with the HLR and MNP node.

Thus, the objective technical problem solved by the present invention is how to apply smart services to SMS messages in a network or between networks while maintaining visibility of the true status of the destination subscriber. The present invention solves this problem by ensuring that the SMSC engages in a complete end-to-end transaction with the HLR. In contrast, the message transaction in the Wilson patent is "broken" by the SMS router. The SMS router acts as a pseudo HLR in the Wilson patent and the SMSC has no visibility of the status information, such as attachment or detachment from the network and deprovisioning of services, normally provided by the HLR. As such, the SMS router will then also have to act as a proxy SMSC in order to query the HLR to obtain this status and availability information.

Accordingly, Applicant again submits that none of the Wilson patent or any of the prior art of record suggests a method or system that replaces a mobile network address of a second subscriber with the network locator address of a SSCN. It is at least these features,

as specifically set forth in the independent claims of the present application, that represent fundamental difference between the presently claimed invention and the known state-of-the-art, including the system set forth in the Wilson patent.

For the heretofore discussed reasons, Applicants submit that independent claim 1 is not rendered obvious over the Wilson patent. There is no teaching or suggestion in the Wilson patent, as cited by the Examiner, to render the claims of the present application obvious. Reconsideration of the rejection of independent claim 1 is respectfully requested. Claims 2-19 and 21 depend directly or indirectly from and add further limitations to independent claim 1 and are believed to be allowable for at least the reasons discussed hereinabove in connection with independent claim 1. Therefore, for all of the above reasons, reconsideration of the rejection of claims 2-19 and 21 is respectfully requested.

For the heretofore discussed reasons, Applicants submit that independent claim 20 is not rendered obvious over the Wilson patent. There is no teaching or suggestion in the Wilson patent as cited by the Examiner to render the claims of the present application obvious. Reconsideration of the rejection of independent claim 20 is respectfully requested. Claim 27 depends directly or indirectly from and adds further limitations to independent claim 20 and are believed to be allowable for at least the reasons discussed hereinabove in connection with independent claim 20. Therefore, for all of the above reasons, reconsideration of the rejection of claim 27 is respectfully requested.

For the heretofore discussed reasons, independent claim 25 is not rendered obvious over the Wilson patent. Reconsideration of the rejection of independent claim 25 is respectfully requested. Claim 26 depends directly from and adds further limitation to independent claim 25 and is believed to be allowable for at least the reasons discussed hereinabove in connection with claim 25. Therefore, for all of the above reasons, reconsideration of claims 25-26 is respectfully requested.

Conclusion

For all of the foregoing reasons, Applicants submit that claims 1-2, 6, 8-21, and 25-27, as amended, and claims 3-5, and 7 are patentable over the cited prior art and in condition for allowance. Reconsideration of the rejections and allowance of the pending claims 1-21 and 25-27 are respectfully requested. To the extent that the Examiner maintains his rejections in view of the arguments and discussions presented above, Applicants respectfully request an interview with the Examiner to discuss this matter, Applicants' position, and to move this case towards allowance.

Respectfully submitted,
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